

LEST WE FORGET: UNIT IV: PLANT PHYSIOLOGY
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1. Photosynthesis is a physico-chemical process.
2. In photosynthesis, water is both used as a substrate and produced as well.
3. The name 'dark reaction' does not mean that these reactions occur only in dark or that they are not light-dependent.
4. The curve of action spectrum of photosynthesis and the curve of absorption spectrum of chlorophyll a are not a complete one-to-one overlap.
5. Accessory pigments absorb light and transfer 'energy' to chlorophyll a.
6. The electrons needed to replace those removed from photosystem I are provided by photosystem II.
7. Cyclic flow of electrons results only in the synthesis of ATP.
8. Primary electron acceptor in PS II transfers electron to an H carrier.
9. RuBP is a 5 carbon ketose sugar.
10. Calvin pathway occurs in all photosynthetic plants.
11. Cyclic phosphorylation probably takes place to meet the difference in number of ATP and NADPH used in the dark reaction.
12. Bundle sheath cells are characterized by having a large number of chloroplasts, thick walls impervious to gaseous exchange and no intercellular spaces.
13. RuBisCO has a much greater affinity for carbon dioxide when carbon dioxide:oxygen ratio is nearly equal.
14. At any point, the rate of photosynthesis will be determined by the factor available at sub-optimal level.
15. Except for plants in shades or in dense forests, light is rarely a limiting factor in nature.
16. At low light conditions, neither C₃ nor C₄ plants respond to high carbon dioxide concentrations.
17. Current availability of carbon dioxide levels is limiting to C₃ plants.
18. The dark reactions, being enzymatic, are temperature controlled.

19. The energy released by oxidation in respiration cannot be used directly in cellular processes.
20. Plants can get along without specialised respiratory organs.
21. Glucose is oxidised in several small steps.
22. All living organisms retain the enzymatic machinery to partially oxidise glucose without the help of oxygen.
23. NAD^+ is regenerated in both ethanol fermentation and lactate fermentation.
24. Ubiquinone is located within the inner mitochondrial membrane, cytochrome c is attached to the outer surface of the inner membrane.
25. Oxygen acts as the final hydrogen acceptor in aerobic cellular respiration.
26. For each ATP produced, 4 H^+ pass through F_0 from the intermembrane space to the matrix.
27. Substrates other than carbohydrate can be used as respiratory substrate but they do not enter the respiratory pathway at the first step.
28. Plant growth generally is indeterminate.
29. Since increase in protoplasm is difficult to measure directly, one generally measures some quantity which is more or less proportional to it.
30. Zone of maturation at root tip is more proximal to zone of elongation.
31. Even differentiation in plant is open.
- *32. Phenotypic plasticity is considered particularly crucial for plants because of their sessile (non-moving) nature.
- *33. PEPcase has no oxygenase activity.
- *34. In C_4 plants, chloroplasts in mesophyll cells are granal and in bundle sheath cells they are agranal.
- *35. P 680+ is probably the strongest biological oxidising agent.